

## A B S T R A C T

## A BANDPASS FILTER WITH CARRIER FREQUENCY REDUCTION

5 The invention provides a bandpass filtering method  
 in which two frequency transpositions are performed in  
 parallel on an input signal ~~(SE)~~ for filtering using  
 respective first and second upstream mixing signals ~~(SM1,~~  
~~SM2)~~ that are substantially in phase quadrature, ~~so as to~~  
 10 ~~obtain respective first and second transposed signals~~  
~~(ST1, ST2), and the two transposed signals are filtered~~  
~~respectively by two lowpass filters (F1, F2), the~~  
~~frequency of the transposition signals ( $\omega_0$ ) and the~~  
~~passband (B/2) of the low-pass filters being related to~~  
 15 ~~the frequency of the input signal ( $\omega_e$ ) and to the~~  
~~passband desired for the bandpass filter, then respective~~  
~~frequency transpositions are performed on the first and~~  
~~second filtered transposed signals (STF1, STF2) using~~ <sup>and</sup> ~~two~~  
 20 ~~respective downstream mixing signals, and the sum or the~~  
~~difference of the two signals obtained in this way is~~  
~~taken, the frequency of the~~ <sup>downstream</sup> ~~output~~ ~~mixing signals (SMV1,~~  
~~SMV2)~~ is selected to be different from the frequency of  
 the first and second mixing signals so that the output  
 signal is transposed into a desired frequency range, the  
 25 method being characterized in that a common oscillator  
~~(LO)~~ is used which is coupled with a first phase shifter  
~~(MPM)~~ to produce the upstream mixing signals and which is  
 coupled with a second phase shifter ~~(MPV)~~ to produce the  
 downstream mixing signals, and in that the phase shifters  
 30 are used in opposite manner on the first and second  
 signals so that each of said first and second signals  
~~(VT1, VT2)~~ receives the phase-advanced output signal from  
 one of the two phase shifters and the phase-delayed  
 output signal from the other of the two phase shifters.

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Translation of the title and the abstract as they were when originally filed by the Applicant. No account has been taken of any changes that may have been made subsequently by the PCT Authorities acting ex officio, e.g. under PCT Rules 37.2, 38.2, and/or 48.3.

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 Thanks,  
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